

CLAIMS

What is claimed is:

1. A method of making a golf ball, comprising:
mixing a first material and a second material in a mixer; and
cooling said mixer;
wherein said cooling includes using a liquid to cool said mixer.
2. The method of claim 1, wherein said mixing includes mixing said first material and said second material to form a cover layer material including at least 0.05% catalyst.
3. The method of claim 2, wherein said mixing includes mixing said first material and said second material to form a cover layer material including at least 0.1% catalyst.
4. The method of claim 1, wherein said mixing includes mixing said first material and said second material to form a cover layer material having a gel time with a duration of less than about 60 seconds.
5. The method of claim 1, wherein said mixing includes mixing said first material and said second material to form a thermoset polyurethane cover layer material.
6. The method of claim 1, wherein said mixing includes mixing said first material and said second material to form a cover layer material, and further comprising:
cooling a golf ball subassembly such that the golf ball subassembly undergoes a volumetric reduction; and
- 5 applying a cover layer of said cover layer material over said volumetrically reduced golf ball subassembly to form a covered golf ball subassembly.

7. The method of claim 6, wherein said applying includes casting said cover layer.
8. The method of claim 6, wherein said applying includes injection molding said cover layer.
9. The method of claim 6, further comprising:
heating said covered golf ball subassembly to a first temperature; and
holding said covered golf ball subassembly at said first temperature for a first time duration.
10. The method of claim 9, further comprising:
heating said covered golf ball subassembly to a second temperature; and
holding said covered golf ball subassembly at said second temperature for a second time duration.
11. A method of making a golf ball, comprising:
mixing a first material and a second material in a mixer to form a thermoset polyurethane cover layer material; and
applying a cover layer of said cover layer material over a golf ball subassembly.
12. The method of claim 11, further comprising:
cooling said mixer to maintain the material therein at a temperature of less than about 130 F.
13. The method of claim 12, wherein said cooling said mixer includes cooling said mixer using a liquid.

14. The method of claim 11, further comprising:

cooling said golf ball subassembly such that said golf ball subassembly undergoes a volumetric reduction; and

5 wherein said applying said cover layer includes applying said cover layer of said cover layer material over said volumetrically reduced golf ball subassembly.

15. The method of claim 14, further comprising:

cooling said mixer.

16. The method of claim 15, wherein said cooling said mixer includes cooling said mixer using a liquid.

17. A method of making a golf ball, comprising:

cooling a golf ball subassembly such that the golf ball subassembly undergoes a volumetric reduction;

5 mixing a first material and a second material in a mixer to form a cover layer material; cooling said mixer;

applying a cover layer of said cover layer material over the volumetrically reduced golf ball subassembly to form a covered golf ball subassembly; and
curing said covered golf ball subassembly.

18. The method of claim 17, wherein said cooling said mixer includes cooling said mixer with a liquid.

19. The method of claim 17, wherein said curing includes:

heating said covered golf ball subassembly to a first temperature; and

holding said covered golf ball subassembly at said first temperature for a first time duration.

20. The method of claim 19, wherein said heating said covered golf ball subassembly to a first temperature includes heating said covered golf ball subassembly to a temperature between about ambient and about 255°F.

21. The method of claim 20, wherein said holding said covered golf ball subassembly at said first temperature includes holding said covered golf ball subassembly at said first temperature for a time duration between about 6 minutes and about 12 minutes.

22. The method of claim 19, wherein said curing further includes:

heating said covered golf ball subassembly to a second temperature; and

holding said covered golf ball subassembly at said second temperature for a second time duration.

23. The method of claim 22, wherein said heating said covered golf ball subassembly to a second temperature includes heating said covered golf ball subassembly to a temperature less than said first temperature.

24. The method of claim 23, wherein said holding said covered golf ball subassembly at said second temperature includes holding said covered golf ball subassembly at said second temperature for about 20 minutes.

25. A method of making a golf ball, comprising:
forming a golf ball subassembly;
mixing a first material and a second material in a mixer to form a cover layer material;
cooling said mixer to maintain the first and second materials at a temperature of less than

5 about 130 F;

providing a mold;

applying a cover layer of said cover layer material on said golf ball subassembly using
said mold to form a covered golf ball subassembly; and
curing said covered golf ball subassembly.

26. The method of claim 25, wherein:

said providing includes providing a first mold and a second mold; and

said applying includes:

inserting a predetermined amount of said cover layer material into said first mold;

5 inserting said golf ball subassembly into said first mold;

inserting a predetermined amount of said cover layer material into said second

mold; and

coupling said first and said second molds together.

27. The method of claim 26, further comprising:

heating said first mold and said second mold prior to said applying.

28. The method of claim 25, wherein said applying includes:

inserting said golf ball subassembly into said mold; and

inserting a predetermined amount of said cover layer material into said mold.

29. The method of claim 25, further comprising:
cooling said golf ball subassembly such that the golf ball subassembly undergoes a
volumetric reduction prior to said applying.
30. The method of claim 25, further comprising:
forming an intermediate layer on said golf ball subassembly prior to said applying.
31. The method of claim 25, further comprising:
heating said mold prior to said applying.
32. The method of claim 31, wherein said heating includes heating said mold to a
temperature of between about 105°F and about 145°F.
33. A method of making a golf ball layer over a golf ball subassembly, comprising the steps
of:
5 mixing a first material and a second material in a mixer; and
cooling said mixer with a fluid at less than about 70°F;
casting the first and second materials over the golf ball subassembly.
34. The method of claim 33, wherein said mixing includes mixing the first material and the
second material to form a layer material including at least about 0.05% catalyst.
35. The method of claim 33, wherein said mixing includes mixing the first material and the
second material to form a layer material including at least about 0.1% catalyst.

36. The method of claim 33, wherein said mixing includes mixing the first and second materials to form a thermoset polyurethane cover layer material.

37. The method of claim 1, wherein said mixing includes mixing said first material and said second material to form a cover layer material, and further comprising:

heating a golf ball subassembly such that the golf ball subassembly undergoes a volumetric increase; and

5 applying a cover layer of said cover layer material over said volumetrically increased golf ball subassembly to form a covered golf ball subassembly.

38. The method of claim 37, wherein said applying includes casting said cover layer.

39. The method of claim 37, wherein said applying includes injection molding said cover layer.

40. The method of claim 37, further comprising:

heating said covered golf ball subassembly to a first temperature; and

holding said covered golf ball subassembly at said first temperature for a first time duration.

41. The method of claim 40, further comprising:

heating said covered golf ball subassembly to a second temperature; and

holding said covered golf ball subassembly at said second temperature for a second time duration.